

## 5-Port 10BASE-T Smart Ethernet Hub

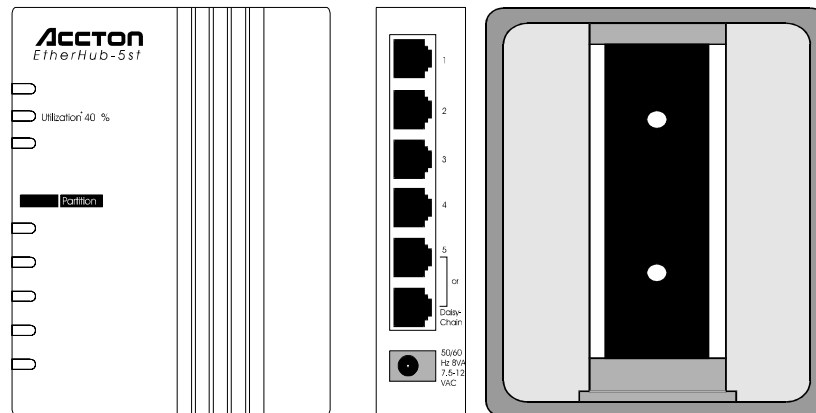
*Thank you* for purchasing our product. This quick start guide contains information necessary to install and operate Accton's EtherHub-5st smart Ethernet hub. This guide is designed for the experienced network installer.

## Package Contents

Your package includes the following:

- EtherHub-5st (EH2045S).
- Quick Start Guide
- Power Adapter (optional)

## Hardware Description



*Front and Side Panels, and Hub Stand*

To stand the hub upright on a desk or nearby shelf, slide the stand onto the base of the hub. To lay the hub flat on a convenient surface, slide the stand onto the back of the hub. Or to mount it directly on a wall or office partition, first attach the stand (i.e., mounting bracket) to the required location with two small screws and then slide the back of the hub onto the bracket.

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### LED Indicators

This hub provides LED indicators for monitoring various network conditions. A glance at the front panel allows you to instantly monitor the status of each station port plus the overall condition of the hub.

LED	Color	Indication
Power	Green	Power indicator.
Utilization 40%	Yellow	Traffic is 40% or more of Ethernet bandwidth (10Mbps).
Collision	Orange	Collision indicator; flashes to show network collision.
Link-RX/Partition	Unlit	No activity.
	Green	RJ-45 (10BASE-T) port linked; flashes to indicate traffic is being received.
	Red	RJ-45 port partitioned.

### RJ-45 Ports

There are 5 RJ-45 MDI-X station ports and 1 RJ-45 MDI daisy-chain port, each providing a 10 Mbps Ethernet channel. To connect to a workstation or server, attach straight-through unshielded or shielded twisted-pair cabling to any station port. To connect to another compatible hub, attach straight-through twisted-pair cabling to the daisy-chain port. However, note that when the daisy-chain port is used, station port 5MDI-X cannot be used. To connect to another hub, you may also run straight-through twisted-pair cabling from a station port on this hub to a crossover port on the other hub. However, if you must connect to another hub via stations ports at both ends of the cable, use crossover cabling.

### Power Socket

The power adapter (optional) plugs into this socket. The power adapter socket accepts AC power equal to 100V, 120V, 220-230V, or 240V at 50 to 60Hz.

### Hardware Installation

1. Select an appropriate location.
2. Connect your workstation to any available RJ-45 port on the hub using unshielded or shielded twisted-pair (UTP or STP) cable. All end-node devices must be within 100 meters of the connected hub. Using the hub in a stand-alone configuration, you can network up to 5 workstations.

#### Daisy-Chain Configuration

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Connect the hub to another hub in a daisy-chain configuration, if necessary. When daisy-chaining, use port 5MDI instead of station port 5MDI-X.

To limit the number of hubs in a path (when daisy-chaining more than two hubs), link several hubs to one central hub. And make sure there is only one path between any two stations on the network.

3. Plug the power cable into the hub, and connect it to an electrical outlet.

### Troubleshooting

**Symptom:** *Partition indicator lights up.*

**Causes:** Hub has partitioned 10BASE-T (RJ-45) port.

**Solution:** If port partitioning has occurred, the hub will automatically enable the port when the faulty condition disappears.

**Symptom:** *Link-RX indicator remains unlit.*

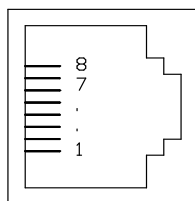
**Causes:** Workstation's network adapter, cable or hub port is defective.

**Solution:** The most common cause is a defective network adapter or cable connection. Check the corresponding cable connections, or the workstation's network adapter for possible defects. Verify that the correct cable type (straight or crossover) is being used. (Note that crossover cable is only required if you cascade hubs via the RJ-45 station ports; i.e., the Daisy-Chain port is not used.) Replace the defective cable or adapter.

### Other Important Tips

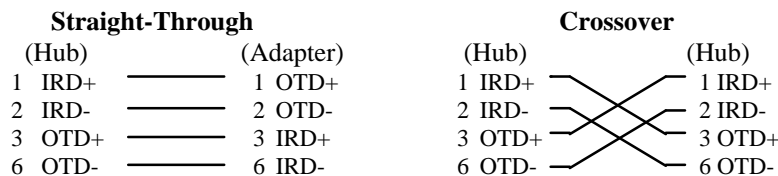
1. Ensure that cable distances, repeater limits, and other physical aspects of the installation do not exceed IEEE 802.3 recommendations.
2. Verify the cabling type used is correct. Tighten all cable connections.
3. Make sure the network adapter cards installed in the workstations and cable connections are in good working condition.
4. Ascertain that your network is properly configured. Make sure that all hubs are connected to the network. Sometimes, hubs may be unintentionally disconnected from the network.
5. You cannot use RJ-45 station port 5MDI-X and the daisy-chain port 5MDI at the same time. Make sure that when you use the RJ-45 daisy-chain port, station port 5 is not connected to any node.

## Hub's RJ-45 Pin Assignments



Pin	MDI-X Assignment (port 1-5)	MDI-Assignment (Daisy-Chain Port)
1	Input Receive Data +	Output transmit Data +
2	Input Receive Data -	Output transmit Data -
3	Output transmit Data +	Input Receive Data +
6	Output transmit Data -	Input Receive Data -
4,5,7,8	Not Used	Not Used

Schematics for both straight and crossover twisted-pair cable are shown below. (Note that crossover cable is only required if you cascade hubs via the RJ-45 station ports; i.e., the 5MDI Daisy-Chain port is not used.)



## Specifications

Transmission Technique	: Baseband
Topology	: Tree or Star
Access Method	: CSMA/CD, 10 Mbps
Standard Conformance	: IEEE 802.3 10BASE-T
Media Supported	: Category 3,4,5 twisted-pair cable
Interfaces	: 5 RJ-45 station ports, 1 RJ-45 daisy-chain port
Hub-to-Workstation Distance	: 100m max.
Dimensions	: 120mm x 96mm x 28mm (4.72" x 3.78" x 1.10")
System Power	: Requirements - 8VAC, 50/60 Hz, 5 watts
Power Adapter	: Optional external power adapter - 8 VAC, 8VA for 100V/120V/220-230V/240V
Temperature	: 0°C to 50°C (Standard Operating)
Humidity	: 5% to 95% (Noncondensing)
Certification	: CE Mark
Emissions	: FCC Class B, VCCI Class 2, CISPR Class B
Immunity	: IEC 801-2,3,4, EN60555-2 Class D, EN60555-3
Safety	: UL, CSA, TÜV/GS

## EMI Warning

### FCC Class B Certification

Accton Technology Corporation

Model Number: EH2045S

FCC ID: *HEDEH2045S*

This device complies with Part 15 of the FCC Rules. Operation is subject to the following conditions:

1. This device may not cause harmful interference, and
2. This device must accept any interference received, including interference that may cause undesired operation.

**Warning!** This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna
- Increase the separation between the equipment and receiver
- Connect the equipment into an outlet on a circuit different from the one which the receiver is connected to
- Consult the dealer or an experienced radio/TV technician for help

You are cautioned that changes or modifications not expressly approved by the party responsible for compliance could void your authority to operate the equipment.

You may use unshielded twisted-pair (UTP) for RJ-45 connections.

**Warning** Wear an antistatic wrist strap or take other suitable measures to prevent electrostatic discharge whenever handling this equipment.

You may find the following book prepared by the Federal Communication Commission helpful:

### The Interference Handbook

This booklet is available from the U.S. Government Printing Office. Washington, D.C. 20402. Stock No. 004-000-00345-4.

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**Note:** In order to maintain compliance with the limits of a Class B digital device, Accton requires that you use a quality interface cable when connecting to this device. Changes or modifications not expressly approved by Accton could void the user's authority to operate this equipment. Suggested cable type is: twisted-pair (10BASE-T).

### VCCI Class 2 Compliance

電波障害自主規制について

この装置は、第二種情報装置（住宅地域又はその隣接した地域において使用されるべき情報装置）で住宅地域での電波障害防止を目的とした情報処理装置等電波障害自主規制協議会（VCCI）基準に適合しております。

しかし、本装置をラジオ、テレビジョン受信機に近接してご使用になると、受信障害の原因となることがあります。

取扱説明書に従って正しい取り扱いをして下さい。

This product also complies with CISPR22 Class B (EN55022 Class B).

### EN55022 Declaration of Conformance

This is to certify that the Accton Ethernet Hub is shielded against the generation of radio interference in accordance with the application of Council Directive 89/336/EEC, Article 4a. Conformity is declared by the application of EN55022:1987 Class B (CISPR 22:1985/BS 6527:1988).

### CE Mark Declaration of Conformance

This is to certify that this product complies with ISO/IEC Guide 22 and EN45014. It conforms to the following specifications:

EMC:	EN55022(1988)/CISPR-22(1985)	class B
	EN60555-2(1995)	class D
	EN60555-3	
	prEN55024-2(1990)/IE801-2(1991)	4kV CD, 8kV AD
	prEN55024-3(1991)/IE801-3(1984)	3V V/m
	prEN55024-4(1992)/IE801-4(1988)	1kV - (power line)
		0.5kV - (signal line)

This product complies with the requirements of the Low Voltage Directive 73/23/EEC and the EMC Directive 89/336/EEC.

### Warning!

The connectors are not for telephone system use.

Les raccordeurs ne sont pas utilisé pour le système téléphonique!

For use with Silicore Power Adapter Model No: SLA40810.

POUR UTILISER AVEC MODELE SLA40810.

## **Sicherheitshinweise**

1. Die Steckdose muß sich in der Nähe des Gerätes befinden und leicht zugänglich sein.
2. Zum Reinigen den Stecker aus der Steckdose ziehen. Beim Reinigen keine Flüssigreiniger oder Sprays verwenden, sondern ein angefeuchtetes Tuch.
3. Das Ethernet hub gerät nicht in Naßräume oder in der Nähe von Wasser benutzen, wie z.B. Badezimmer, Schwimmbad, Spülbecken usw. . Das Eindringen von Wasser kann zur Zerstörung des Gerätes führen.
4. Das Ethernet hub gerät nicht auf einer unstabilen Unterlage, wie z.B. Rollwagen, Gestell usw., aufstellen. Es könnte herunterfallen und Verletzungen oder Beschädigungen von Mensch und Gerät verursachen.
5. Die Belüftungsöffnungen nicht blockieren oder auf falscher Ober-fläche, wie Bett, Sofa usw., stellen. Durch die Blockierung kann es zur Zersörung des Gerätes durch Überhitzung kommen.
6. Versuchen Sie niemals dieses Gerät selbst zu warten, da beim Öffnen oder Abnehmen des Gehäuses die Gefahr eines elektrischen Schlages besteht.
7. Keine Gegenstände auf das Anschlußkabel stellen, damit es nicht durch scharfe Kanten zerstört werden kann.
8. Keinerlei Gegenstände durch die Öffnungen in das Gerät stecken, da es dadurch sonst zu Kurzschlüssen kommen kann.
9. Bei Störungen des Gerätes den Wartungsdienst verständigen.
10. Bei Reperaturen dürfen nur Originalersatzteile oder Bauteile mit gleichen Eigenschaften verwendet werden. Andere Bauteile können Feuer, elektrischen Schlag oder andere Gefahren verursachen.
11. Nach Beendigung von Wartungsarbeiten oder Reperaturen durch den Kundendienst sollte die Sicherheitsprüfung durchgeführt werden.
12. Bei längerem Stillstand des Gerätes, ist diese von der Versorgungs- spannung zu trennen. Dies verhindert eine Beschädigung des Gerätes durch eine Überspannung in der Zuleitung.
13. Der arbeitsplatzbezogene Lärmschutzpegel nach DIN 45 635 ist kleiner 70dB (A).
14. Stellen Sie sicher, daß die Stromversorgung dieses Gerätes nach der EN 60950 gepr üft ist. Ausgangswerte der Stromversorgung solltem die Werte von AC 7.5-8V, 50-60Hz nicht über oder unterschreiten sowie den minimalon Strom von 1A nicht unterschreiten.

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### Warranty

Accton warrants to the original owner that the product delivered in this package will be free from defects in material and workmanship for the lifetime of the product. For the warranty to apply, you must register your purchase by returning the registration card indicating the date of purchase and including proof of purchase. There will be a minimal charge to replace consumable components, such as fuses, power transformers, and mechanical cooling devices. The warranty does not cover the product if it is damaged in the process of being installed. Accton recommends that you have the company from whom you purchased this product install it.

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